ABSTRACT

A wavelength tunable filter for optical communication systems has an optical fiber containing a Bragg grating disposed within a compliant support block. A length of the fiber is wrapped in a spiral of fixed pitch around the longitudinal axis of a cylindrical polymer support block. The support block is placed within a support frame to which a micrometer screw assembly is attached and oriented to apply a variable mechanical load substantially parallel to the longitudinal axis of the cylindrical support block. Application of the load introduces a strain on the support block, changing the period of the refractive index in the fiber Bragg grating with a resulting shift in the Bragg reflection peak.